

REMARKS

This Amendment is in response to the Final Office Action dated December 10, 2002. The Examiner therein rejected claims 1 and 4-11.

Claims 2-3 were previously canceled. Applicants amend claims 4, 5 and 8 herein. Claims 1 and 4-11 are thus pending. Reconsideration of these pending claims is respectfully requested.

Claim Objections

Claim 7 is objected to by the Examiner because portions of this claim were apparently cut-off when previously faxed. This claim is included herein again in its entirety for consideration. The Examiner in the future is invited to contact the undersigned representative in the event any portion of this transmission can not be viewed.

Claim Rejections Under 35 U.S.C. § 112

Claims 4, 5 and 8 are rejected under 35 U.S.C. § 112, second paragraph. These claims are amended herein to more particularly point out and distinctly claim the subject matter which Applicants regard as the claimed invention. The term "relatively" is deleted from claim 4 and 5, and the phrase "same position" is replaced in amended claim 8.

Reconsideration and allowance of these dependent claims is respectfully requested.

Rejections Under 35 U.S.C. § 103

In the Office Action, the Examiner rejects claims 1 and 4-11 under 35 U.S.C. §103(a) based on Nakagawa (US Patent 5,885,755) in view of Fukuda (EP 0110558).

Independent claims 1, 7 and 11 are directed to several embodiments of the invention. For example, independent claim 1 is directed to a developing method that incorporates the use of a multi-dispense nozzle as claimed for dispensing multiple materials including developer fluid. Among the recited steps following puddling of the developer fluid, a fresh charge of the developer fluid is dispensed in addition to the previously dispensed amount through the multi-dispense nozzle. These and other recited limitations can be also found in remaining independent claims 7 and 11.

Meanwhile the references cited by the Examiner in the Office Action fail to disclose or suggest the claimed invention. Even if the Nakagawa and Fukuda references were combined as suggested, each and every claim limitation as recited in the independent claims are not met. For example, the Examiner concedes that Nakagawa does not even disclose the use of a multi-port nozzle. And while Fukuda may describe a multi-port nozzle, that teaching is only directed to a design that dispenses developer solution only from a common source in a supposedly more uniform manner – not deionized water or other materials besides developer. [“The nozzles 11, 12, 13, and 14 are connected to respective feed pipes 31, 32, 33, and 34 which are connected to a common developer reservoir 50, preferably through respective developer controllers 41, 42, 43, and 44. The developer controllers known per se independently control the amount of developer fed from the respective nozzles.” col.3, lns.53-60.] The controllers and set-up of this system in Fukuda are directed to the dispersed dispensing of developer alone as described in an attempt to more uniformly distribute a single fluid. There is no teaching in these references of dispensing different kinds of fluids efficiently through a common multi-port nozzle as described in the pending claims.

In view of the aforementioned remarks relating to independent claims 1, 7 and 11, allowance of this and the other claims dependent therefrom is respectfully requested.

The Examiner further rejects claims 1 and 4-11 in the Office Action under U.S.C. §103(a) based on the single Semba reference (US Patent 5,854,953).

Semba neither discloses nor suggests the invention as claimed in independent claims 1, 7 and 11. As shown in FIG. 6, Semba describes a specific process for development treatment. A step-by-step procedure is further set forth in the specification which includes step: “(7) After a lapse of predetermined period of developing treatment processing time since the formation of the developing solution, rotate the wafer W to centrifugally remove the residual developing solution 2 from the wafer W (step S9 in FIG.6). Then, drip the rinsing solution from the rinsing nozzle 17 onto the front surface of the wafer W, and at the same time, disperse the rinsing solution toward the rear surface of the wafer W from the back rinse disperser 18, to thereby rinse the front surface and rear surface of the wafer W (step 10 in FIG. 6).” [col.6, ln.32 – col.7, ln.35.] As further stated by the Examiner, “Semba teaches it is conventional to use in a developing process whereby a layer of water (inert material) is first applied to avoid distortion of the pattern

do [sic] to first impact of the developing solution directly on the photoresist layer.”

[Office Action, p.4.]

The Examiner is respectfully invited to carefully review again the recited methods as claimed by Applicants. It should then become apparent that Semba in effect teaches away from the invention as claimed in that developer is actually removed from the wafer W by spinning it before a rinsing solution is applied. [col.7, lns.11-24.] Meanwhile, as recited in independent claims 1, 7 and 11, a fresh charge of developer fluid is dispensed following puddling of the developer fluid on the wafer surface. [See FIG. 23B.] So rather than removing developer prior to applying a rinse solution as described in Semba, developer is added to the wafer surface before rinsing. This and other claim limitations set forth in the pending claims are also missing from Semba as discussed elsewhere herein.

None of the cited references of record neither disclose nor suggest the invention as presently claimed when considered individually or in combination with one another. Claims 4-6 and 8-10 are also dependent claims related to amended independent claims 1 and 7, respectively. These dependent claims should also be allowed for the same reasons provided above. Accordingly, allowance of all pending claims 1 and 4-11 is respectfully requested.

CONCLUSION

Applicants submit that the application is in condition for allowance and respectfully request the Examiner to expedite this matter so that a patent may issue. In the event there are any questions concerning this application, the Examiner is encouraged to contact the undersigned representative.

The Commissioner is authorized to charge any additional fees which may be required, including petition fees and extension of time fees, to Deposit Account No. 23-2415 (Docket No. 8003-370). A duplicate copy of this paper is enclosed.

Respectfully submitted,

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Date: _____

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